## COURSE SPECIFICATIONS

### Master Degree

**University:** Benha.

**Faculty:** Veterinary Medicine.

**Course Title:** General Biochemistry and chemistry of nutrition.

**Code:** 25.

**Department offering the course:** Biochemistry Department.

**Program(s) on which the course is given:** Master degree in veterinary science (Biochemistry).

**Academic Year / level:** 2011-2012.

**Date of specification approval:** 10 / 1 / 2012.

### A- Basic Information

**Title:** General Biochemistry and chemistry of nutrition.

| Lecture: 2 | Practical: 2 | Total: 4h /w |

### B- Professional Information

1- **Overall Aims of the Course:** The postgraduate student:

1- Provide the student of master with professional skills and attitude in handling recent technique and diagnostic tools.

2- Improve ability of candidate to apply the acquired knowledge in professional skills of laboratory diagnosis.

3- Prepare the student to do good diet have essentials food content.

2- **Intended Learning Outcomes of the Course: ( ILOs )

**A- knowledge and Understanding**

After the completion of these courses the student should be able to:

a.1. Define the different Scientific terms in General Biochemistry.

a.2. Understand the basic knowledge about Carbohydrates, Lipids and Proteins classifications.

a.3. Illustrate the chemical composition of different food contents.
a.4. describe importance of lipids 
 a.5. mention the importance of carbohydrates. 
 a.6. recognize the importance of proteins. 
 a.7. List the difference of carbohydrate and lipids in the energy production. 
 a.8 summarize the importance of these compounds in the living cells. 
 a.9 state and list immunoglobulin and its types. 
 a.10. Introduce the plan work within the governmental frame work Regulation in Biochemical Experiments 

B-Intellectual skills: 
After the completion of these courses the student should be able to: 

  b.1. Design a research proposal in chemistry of nutrition. 
  b.2. Estimate the energy produced from carbohydrate oxidation 
  b.3. estimate the energy produced from fatty acids oxidation. 
  b.4. Identify the different types of amino acids by electrophoresis. 
  b.5. analyze different types of fatty acids. 
  b.6. Evaluate the articles research papers in biochemistry of nutrition. 
  b.7. design how can write a thesis and research proposal. 
B.8. Criticize and Assess their own research data regarding the research area. 
B.9. Comment accurately up on the obtained results on his given results. 
 b.10. judge changes in the immunoglobulin levels. 

C-Professional and practical skills
After the completion of these courses the student should be able to: 

  c.1. perform a good ration content. 
  c.2. solve any problems in food contents. 
  c.3. Calculate the percentages of the diet content with energy needed. 
  c.4. Write Correctively the report of the Biochemical reactions that have been tested. 
 C.5. Perform relevant statistical analysis on data obtained from own research which support his Biochemical skills 
 C.6. Conduct research project using appropriate range of Experimental techniques.
c.7. explain the results of immunoglobulin changes.

**D- General and transferable skills:**

After the completion of these courses the student should be able to:

- D.1 successful member chemist.
- D.2. Illustrate a scientific study in the Biochemistry laboratories.
- D.3. Set the basis of the scientific chemists' terms.
- D.4. Have problem solving skills.
- D.5. Communication skills.
- D.6. Information technology skills.

**E- Attitude:**

After the students fishing this courses they should be able to:

- E.1. Scientific Integrity.
- E.2. Know the rules and ethics of Scientific research

### 3 – CONTENTS:

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<thead>
<tr>
<th>Topic</th>
<th>No. of hours</th>
<th>Lecture</th>
<th>Practical</th>
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<tbody>
<tr>
<td>Classification and Chemistry of carbohydrates</td>
<td>64</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>Classification and Chemistry of lipids</td>
<td>42</td>
<td>21</td>
<td>21</td>
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<tr>
<td>Classification and Chemistry of proteins</td>
<td>54</td>
<td>27</td>
<td>27</td>
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<tr>
<td>Immunochemistry</td>
<td>16</td>
<td>8</td>
<td>8</td>
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<td><strong>Total</strong></td>
<td><strong>176</strong></td>
<td><strong>88</strong></td>
<td><strong>88</strong></td>
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**4- Teaching and learning methods:**

4.1. Lectures.
4.2. Practical demonstration of chemical reactions.
4.3. Visiting the Central Laboratory.
4.4. Reports.

**5- Student assessment methods:**

5.1. Research work  
To assess student ability for discussion of his attendants.

5.2. Oral Examination  
To assess student ability to
To demonstrate his knowledge in practical skills, a "Practical Exam" is conducted. This exam is designed to assess different skills.
- http://www.labtestsonline.org
- http://www.indstate.edu/thcme/mwking/enzyme-kinetics.html
- http://www-biol.paisley.ac.uk/kinetics/contents.html

### 7- Facilities Required for Teaching and Learning:

7.1. Data show and computer.
7.2. Biochemistry Laboratory.
7.3. Laboratory animals.
7.4. Library.

### Course Coordinators (Teaching Committee):

1. Prof. Dr/ Hussein Abd El-Maksoud Ali
2. Assistant Prof./ Afaf Desoky Abd El-Magid
3. Assistant Prof./ Omnia Mahmoud Abd El-Hamid

### Head of Biochemistry Department:

Prof. Dr / Yakout abdel-Fattah

**Date: 10 / 1 / 2012.**
### Matrix of the course no:25 (general biochemistry and chemistry of nutrition)

<table>
<thead>
<tr>
<th>Course title</th>
<th>No of hours teaching</th>
<th>Program ILOs covered by No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lecture</td>
<td>Practical Lab</td>
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<tr>
<td>Classification and Chemistry of carbohydrates</td>
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<td>32</td>
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<tr>
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<td>Immunochemistry</td>
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